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SEQUENCE LISTING

<110> Tracey, Kevin J.

<120> USE OF HMGB POLYPEPTIDES FOR INCREASING
IMMUNE RESPONSES

<130> 3268.1003003

<150> 60/427,848

<151> 2002-11-20

<160> 45

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 215

<212> PRT

<213> Homo sapiens

<400> 1

Met	Gly	Lys	Gly	Asp	Pro	Lys	Pro	Arg	Gly	Lys	Met	Ser	Ser	Tyr	
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Ala	Phe	Phe	Val	Gln	Thr	Cys	Arg	Glu	Glu	His	Lys	Lys	Lys	His	Pro
						20		25			30				
Asp	Ala	Ser	Val	Asn	Phe	Ser	Glu	Phe	Ser	Lys	Lys	Cys	Ser	Glu	Arg
						35		40			45				
Trp	Lys	Thr	Met	Ser	Ala	Lys	Glu	Lys	Gly	Lys	Phe	Glu	Asp	Met	Ala
						50		55			60				
Lys	Ala	Asp	Lys	Ala	Arg	Tyr	Glu	Arg	Glu	Met	Lys	Thr	Tyr	Ile	Pro
						65		70			75			80	
Pro	Lys	Gly	Glu	Thr	Lys	Lys	Phe	Lys	Asp	Pro	Asn	Ala	Pro	Lys	
						85		90			95				
Arg	Pro	Pro	Ser	Ala	Phe	Phe	Leu	Phe	Cys	Ser	Glu	Tyr	Arg	Pro	Lys
						100		105			110				
Ile	Lys	Gly	Glu	His	Pro	Gly	Leu	Ser	Ile	Gly	Asp	Val	Ala	Lys	Lys
						115		120			125				
Leu	Gly	Glu	Met	Trp	Asn	Asn	Thr	Ala	Ala	Asp	Asp	Lys	Gln	Pro	Tyr
						130		135			140				
Glu	Lys	Lys	Ala	Ala	Lys	Leu	Lys	Glu	Lys	Tyr	Glu	Lys	Asp	Ile	Ala
						145		150			155			160	
Ala	Tyr	Arg	Ala	Lys	Gly	Lys	Pro	Asp	Ala	Ala	Lys	Lys	Gly	Val	Val
						165		170			175				
Lys	Ala	Glu	Lys	Ser	Lys	Lys	Lys	Glu	Glu	Glu	Glu	Asp	Glu	Glu	
						180		185			190				
Asp	Glu	Glu	Asp	Glu	Glu	Glu	Glu	Asp	Glu	Glu	Asp	Glu	Asp	Glu	
						195		200			205				
Glu	Glu	Asp	Asp	Asp	Asp	Asp	Glu								
						210		215							

<210> 2

<211> 215

<212> PRT

<213> Mus musculus

<400> 2

Met	Gly	Lys	Gly	Asp	Pro	Lys	Lys	Pro	Arg	Gly	Lys	Met	Ser	Ser	Tyr
1						5		10			15				
Ala	Phe	Phe	Val	Gln	Thr	Cys	Arg	Glu	Glu	His	Lys	Lys	Lys	His	Pro

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	20		25		30										
Asp	Ala	Ser	Val	Asn	Phe	Ser	Glu	Phe	Ser	Lys	Lys	Cys	Ser	Glu	Arg
	35					40				45					
Trp	Lys	Thr	Met	Ser	Ala	Lys	Glu	Lys	Gly	Lys	Phe	Glu	Asp	Met	Ala
	50					55				60					
Lys	Ala	Asp	Lys	Ala	Arg	Tyr	Glu	Arg	Glu	Met	Lys	Thr	Tyr	Ile	Pro
	65				70				75					80	
Pro	Lys	Gly	Glu	Thr	Lys	Lys	Phe	Lys	Asp	Pro	Asn	Ala	Pro	Lys	
					85			90					95		
Arg	Pro	Pro	Ser	Ala	Phe	Phe	Leu	Phe	Cys	Ser	Glu	Tyr	Arg	Pro	Lys
					100			105					110		
Ile	Lys	Gly	Glu	His	Pro	Gly	Leu	Ser	Ile	Gly	Asp	Val	Ala	Lys	Lys
					115			120					125		
Leu	Gly	Glu	Met	Trp	Asn	Asn	Thr	Ala	Ala	Asp	Asp	Lys	Gln	Pro	Tyr
						130		135				140			
Glu	Lys	Lys	Ala	Ala	Lys	Leu	Lys	Glu	Lys	Tyr	Glu	Lys	Asp	Ile	Ala
						145		150			155			160	
Ala	Tyr	Arg	Ala	Lys	Gly	Lys	Pro	Asp	Ala	Ala	Lys	Lys	Gly	Val	Val
						165			170				175		
Lys	Ala	Glu	Lys	Ser	Lys	Lys	Lys	Glu	Glu	Glu	Asp	Asp	Glu	Glu	
						180			185				190		
Asp	Glu	Glu	Asp	Glu	Asp	Glu	Asp	Glu							
						195			200				205		
Glu	Glu	Asp	Asp	Asp	Asp	Glu									
						210			215						

<210> 3
<211> 209
<212> PRT
<213> *Homo sapiens*

<400> 3
 Met Gly Lys Gly Asp Pro Asn Lys Pro Arg Gly Lys Met Ser Ser Tyr
 1 5 10 15
 Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro
 20 25 30 -
 Asp Ser Ser Val Asn Phe Ala Glu Phe Ser Lys Lys Cys Ser Glu Arg
 35 40 45
 Trp Lys Thr Met Ser Ala Lys Glu Lys Ser Lys Phe Glu Asp Met Ala
 50 55 60
 Lys Ser Asp Lys Ala Arg Tyr Asp Arg Glu Met Lys Asn Tyr Val Pro
 65 70 75 80
 Pro Lys Gly Asp Lys Lys Gly Lys Lys Lys Asp Pro Asn Ala Pro Lys
 85 90 95
 Arg Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu His Arg Pro Lys
 100 105 110
 Ile Lys Ser Glu His Pro Gly Leu Ser Ile Gly Asp Thr Ala Lys Lys
 115 120 125
 Leu Gly Glu Met Trp Ser Glu Gln Ser Ala Lys Asp Lys Gln Pro Tyr
 130 135 140
 Glu Gln Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala
 145 150 155 160
 Ala Tyr Arg Ala Lys Gly Lys Ser Glu Ala Gly Lys Lys Gly Pro Gly
 165 170 175
 Arg Pro Thr Gly Ser Lys Lys Lys Asn Glu Pro Glu Asp Glu Glu Glu
 180 185 190
 Glu Glu Glu Glu Asp Glu Asp Glu Glu Glu Glu Asp Glu Asp Glu
 195 200 205
 Glu

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<210> 4
<211> 54
<212> PRT
<213> Homo sapiens

<400> 4
Pro Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu
1 5 10 15
Arg Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met
20 25 30
Ala Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile
35 40 45
Pro Pro Lys Gly Glu Thr
50

<210> 5
<211> 69
<212> PRT
<213> Homo sapiens

<400> 5
Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu
1 5 10 15
Tyr Arg Pro Lys Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp
20 25 30
Val Ala Lys Lys Leu Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp
35 40 45
Lys Gln Pro Tyr Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu
50 55 60
Lys Asp Ile Ala Ala
65

<210> 6
<211> 22
<212> DNA
<213> Homo sapiens

<400> 6
gatggcataa ggagatccta ag

22

<210> 7
<211> 29
<212> DNA
<213> Homo sapiens

<400> 7
gcggccgctt attcatcatc atcatcttc

29

<210> 8
<211> 22
<212> DNA
<213> Homo sapiens

<400> 8
gatggcataa ggagatccta ag

22

<210> 9
<211> 32
<212> DNA
<213> Homo sapiens

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<400> 9
gcggccgctc acttgctttt ttcagccttg ac 32

<210> 10
<211> 21
<212> DNA
<213> Homo sapiens

<400> 10
gagcataaga agaaggcaccc a 21

<210> 11
<211> 32
<212> DNA
<213> Homo sapiens

<400> 11
gcggccgctc acttgctttt ttcagccttg ac 32

<210> 12
<211> 24
<212> DNA
<213> Homo sapiens

<400> 12
aagttcaagg atcccaatgc aaag 24

<210> 13
<211> 32
<212> DNA
<213> Homo sapiens

<400> 13
gcggccgctc aatatgcagc tatatcccttt tc 32

<210> 14
<211> 22
<212> DNA
<213> Homo sapiens

<400> 14
gatgggcaaa ggagatccta ag 22

<210> 15
<211> 24
<212> DNA
<213> Homo sapiens

<400> 15
tcactttttt gtctccccctt tggg 24

<210> 16
<211> 20
<212> PRT
<213> Homo sapiens

<400> 16
Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu
1 5 10 15
Tyr Arg Pro Lys 20

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<210> 17
<211> 74
<212> PRT
<213> Homo sapiens

<400> 17
Phe Lys Asp Pro Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Phe Leu
1 5 10 15
Phe Cys Ser Glu Tyr Arg Pro Lys Ile Lys Gly Glu His Pro Gly Leu
20 25 30
Ser Ile Gly Asp Val Ala Lys Lys Leu Gly Glu Met Trp Asn Asn Thr
35 40 45
Ala Ala Asp Asp Lys Gln Pro Tyr Glu Lys Lys Ala Ala Lys Leu Lys
50 55 60
Glu Lys Tyr Glu Lys Asp Ile Ala Ala Tyr
65 70

<210> 18
<211> 216
<212> PRT
<213> Homo sapiens

<400> 18
Met Gly Lys Gly Asp Pro Lys Lys Pro Thr Gly Lys Met Ser Ser Tyr
1 5 10 15
Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro
20 25 30
Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg
35 40 45
Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala
50 55 60
Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro
65 70 75 80
Pro Lys Gly Glu Thr Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys
85 90 95
Arg Leu Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu Tyr Arg Prō Lys
100 105 110
Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp Val Ala Lys Lys
115 120 125
Leu Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp Lys Gln Pro Tyr
130 135 140
Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala
145 150 155 160
Ala Tyr Arg Ala Lys Gly Lys Pro Asp Ala Ala Lys Lys Gly Val Val
165 170 175
Lys Ala Glu Lys Ser Lys Lys Lys Glu Glu Glu Asp Glu Glu
180 185 190
Asp Glu Glu Asp Glu Glu Glu Glu Asp Glu Glu Asp Glu Glu Asp
195 200 205
Glu Glu Glu Asp Asp Asp Glu
210 215

<210> 19
<211> 182
<212> PRT
<213> Homo sapiens

<400> 19
Met Gly Lys Gly Asp Pro Lys Lys Pro Thr Gly Lys Met Ser Ser Tyr
1 5 10 15

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Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys His Pro
 20 25 30
 Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg
 35 40 45
 Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala
 50 55 60
 Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro
 65 70 75 80
 Pro Lys Gly Glu Thr Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys
 85 90 95
 Arg Leu Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu Tyr Arg Pro Lys
 100 105 110
 Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp Val Ala Lys Lys
 115 120 125
 Leu Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp Lys Gln Pro Tyr
 130 135 140
 Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala
 145 150 155 160
 Ala Tyr Arg Ala Lys Gly Lys Pro Asp Ala Ala Lys Lys Gly Val Val
 165 170 175
 Lys Ala Glu Lys Ser Lys
 180

<210> 20
 <211> 74
 <212> PRT
 <213> Homo sapiens

<400> 20
 Phe Lys Asp Pro Asn Ala Pro Lys Arg Leu Pro Ser Ala Phe Phe Leu
 1 5 10 15
 Phe Cys Ser Glu Tyr Arg Pro Lys Ile Lys Gly Glu His Pro Gly Leu
 20 25 30
 Ser Ile Gly Asp Val Ala Lys Lys Leu Gly Glu Met Trp Asn Asn Thr
 35 40 45
 Ala Ala Asp Asp Lys Gln Pro Tyr Glu Lys Lys Ala Ala Lys Leu Lys
 50 55 60
 Glu Lys Tyr Glu Lys Asp Ile Ala Ala Tyr
 65 70

<210> 21
 <211> 85
 <212> PRT
 <213> Homo sapiens

<400> 21
 Met Gly Lys Gly Asp Pro Lys Lys Pro Thr Gly Lys Met Ser Ser Tyr
 1 5 10 15
 Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro
 20 25 30
 Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg
 35 40 45
 Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala
 50 55 60
 Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro
 65 70 75 80
 Pro Lys Gly Glu Thr
 85

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<210> 22
<211> 77
<212> PRT
<213> Homo sapiens

<400> 22
Pro Thr Gly Lys Met Ser Ser Tyr Ala Phe Phe Val Gln Thr Cys Arg
1 5 10 15
Glu Glu His Lys Lys Lys His Pro Asp Ala Ser Val Asn Phe Ser Glu
20 25 30
Phe Ser Lys Lys Cys Ser Glu Arg Trp Lys Thr Met Ser Ala Lys Glu
35 40 45
Lys Gly Lys Phe Glu Asp Met Ala Lys Ala Asp Lys Ala Arg Tyr Glu
50 55 60
Arg Glu Met Lys Thr Tyr Ile Pro Pro Lys Gly Glu Thr
65 70 75

<210> 23
<211> 20
<212> PRT
<213> Homo sapiens

<400> 23
Phe Lys Asp Pro Asn Ala Pro Lys Arg Leu Pro Ser Ala Phe Phe Leu
1 5 10 15
Phe Cys Ser Glu
20

<210> 24
<211> 216
<212> PRT
<213> Homo sapiens

<400> 24
Met Gly Lys Gly Asp Pro Lys Lys Pro Thr Gly Lys Met Ser Ser Tyr
1 5 10 15
Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Pro
20 25 30
Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg
35 40 45
Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala
50 55 60
Lys Ala Asp Lys Ala Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro
65 70 75 80
Pro Lys Gly Glu Thr Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys
85 90 95
Arg Leu Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu Tyr Arg Pro Lys
100 105 110
Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp Val Ala Lys Lys
115 120 125
Leu Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp Lys Gln Pro Tyr
130 135 140
Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala
145 150 155 160
Ala Tyr Arg Ala Lys Gly Lys Pro Asp Ala Ala Lys Lys Gly Val Val
165 170 175
Lys Ala Glu Lys Ser Lys Lys Lys Glu Glu Glu Asp Glu Glu
180 185 190
Asp Glu Glu Asp Glu Glu Glu Asp Glu Glu Asp Glu Glu Asp
195 200 205

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Glu Glu Glu Asp Asp Asp Asp Glu
 210 215

<210> 25
 <211> 211
 <212> PRT
 <213> Homo sapiens

<400> 25
 Met Gly Lys Gly Asp Pro Lys Pro Arg Gly Lys Met Ser Ser Tyr
 1 5 10 15
 Ala Phe Phe Val Gln Thr Cys Arg Glu Glu His Lys Lys Lys His Ser
 20 25 30
 Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Asn Lys Cys Ser Glu Arg
 35 40 45
 Trp Lys Thr Met Ser Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala
 50 55 60
 Lys Ala Asp Lys Thr His Tyr Glu Arg Gln Met Lys Thr Tyr Ile Pro
 65 70 75 80
 Pro Lys Gly Glu Thr Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys
 85 90 95
 Arg Pro Pro Ser Ala Phe Phe Leu Phe Cys Ser Glu Tyr His Pro Lys
 100 105 110
 Ile Lys Gly Glu His Pro Gly Leu Ser Ile Gly Asp Val Ala Lys Lys
 115 120 125
 Leu Gly Glu Met Trp Asn Asn Thr Ala Ala Asp Asp Lys Gln Pro Gly
 130 135 140
 Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Glu Lys Asp Ile Ala
 145 150 155 160
 Ala Tyr Gln Ala Lys Gly Lys Pro Glu Ala Ala Lys Lys Gly Val Val
 165 170 175
 Lys Ala Glu Lys Ser Lys Lys Lys Glu Glu Glu Asp Glu Glu
 180 185 190
 Asp Glu Glu Asp Glu Glu Glu Asp Glu Glu Asp Glu Asp Asp
 195 200 205
 Asp Asp Glu
 210

<210> 26
 <211> 188
 <212> PRT
 <213> Homo sapiens

<400> 26
 Met Gly Lys Gly Asp Pro Lys Pro Arg Gly Lys Met Ser Ser Tyr
 1 5 10 15
 Ala Phe Phe Val Gln Thr Cys Arg Glu Glu Cys Lys Lys Lys His Pro
 20 25 30
 Asp Ala Ser Val Asn Phe Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg
 35 40 45
 Trp Lys Ala Met Ser Ala Lys Asp Lys Gly Lys Phe Glu Asp Met Ala
 50 55 60
 Lys Val Asp Lys Asp Arg Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro
 65 70 75 80
 Pro Lys Gly Glu Thr Lys Lys Phe Glu Asp Ser Asn Ala Pro Lys
 85 90 95
 Arg Pro Pro Ser Ala Phe Leu Leu Phe Cys Ser Glu Tyr Cys Pro Lys
 100 105 110
 Ile Lys Gly Glu His Pro Gly Leu Pro Ile Ser Asp Val Ala Lys Lys
 115 120 125

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Leu Val Glu Met Trp Asn Asn Thr Phe Ala Asp Asp Lys Gln Leu Cys
 130 135 140
 Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Lys Lys Asp Thr Ala
 145 150 155 160
 Thr Tyr Arg Ala Lys Gly Lys Pro Asp Ala Ala Lys Lys Gly Val Val
 165 170 175
 Lys Ala Glu Lys Ser Lys Lys Lys Glu Glu Glu
 180 185

<210> 27
<211> 205
<212> PRT
<213> Homo sapiens

<400> 27
Met Asp Lys Ala Asp Pro Lys Lys Leu Arg Gly Glu Met Leu Ser Tyr
 1 5 10 15
 Ala Phe Phe Val Gln Thr Cys Gln Glu Glu His Lys Lys Lys Asn Pro
 20 25 30
 Asp Ala Ser Val Lys Phe Ser Glu Phe Leu Lys Lys Cys Ser Glu Thr
 35 40 45
 Trp Lys Thr Ile Phe Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Ala
 50 55 60
 Lys Ala Asp Lys Ala His Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro
 65 70 75 80
 Pro Lys Gly Glu Lys Lys Lys Phe Lys Asp Pro Asn Ala Pro Lys
 85 90 95
 Arg Pro Pro Leu Ala Phe Phe Leu Phe Cys Ser Glu Tyr Arg Pro Lys
 100 105 110
 Ile Lys Gly Glu His Pro Gly Leu Ser Ile Asp Asp Val Val Lys Lys
 115 120 125
 Leu Ala Gly Met Trp Asn Asn Thr Ala Ala Ala Asp Lys Gln Phe Tyr
 130 135 140
 Glu Lys Lys Ala Ala Lys Leu Lys Glu Lys Tyr Lys Lys Asp Ile Ala
 145 150 155 160
 Ala Tyr Arg Ala Lys Gly Lys Pro Asn Ser Ala Lys Lys Arg Val Val
 165 170 175
 Lys Ala Glu Lys Ser Lys Lys Lys Glu Glu Glu Asp Glu Glu
 180 185 190
 Asp Glu Gln Glu Glu Asn Glu Glu Asp Asp Asp Lys
 195 200 205

<210> 28
<211> 80
<212> PRT
<213> Homo sapiens

<400> 28
Met Gly Lys Gly Asp Pro Lys Lys Pro Arg Gly Lys Met Ser Ser Cys
 1 5 10 15
 Ala Phe Phe Val Gln Thr Cys Trp Glu Glu His Lys Lys Gln Tyr Pro
 20 25 30
 Asp Ala Ser Ile Asn Phe Ser Glu Phe Ser Gln Lys Cys Pro Glu Thr
 35 40 45
 Trp Lys Thr Thr Ile Ala Lys Glu Lys Gly Lys Phe Glu Asp Met Pro
 50 55 60
 Lys Ala Asp Lys Ala His Tyr Glu Arg Glu Met Lys Thr Tyr Ile Pro
 65 70 75 80

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<210> 29
<211> 80
<212> PRT
<213> Homo sapiens

<400> 29
Lys Gln Arg Gly Lys Met Pro Ser Tyr Val Phe Cys Val Gln Thr Cys
1 5 10 15
Pro Glu Glu Arg Lys Lys His Pro Asp Ala Ser Val Asn Phe Ser
20 25 30
Glu Phe Ser Lys Lys Cys Leu Val Arg Gly Lys Thr Met Ser Ala Lys
35 40 45
Glu Lys Gly Gln Phe Glu Ala Met Ala Arg Ala Asp Lys Ala Arg Tyr
50 55 60
Glu Arg Glu Met Lys Thr Tyr Ile Pro Pro Lys Gly Glu Thr Lys Lys
65 70 75 80

<210> 30
<211> 86
<212> PRT
<213> Homo sapiens

<400> 30
Met Gly Lys Arg Asp Pro Lys Gln Pro Arg Gly Lys Met Ser Ser Tyr
1 5 10 15
Ala Phe Phe Val Gln Thr Ala Gln Glu Glu His Lys Lys Lys Gln Leu
20 25 30
Asp Ala Ser Val Ser Phe Ser Glu Phe Ser Lys Asn Cys Ser Glu Arg
35 40 45
Trp Lys Thr Met Ser Val Lys Glu Lys Gly Lys Phe Glu Asp Met Ala
50 55 60
Lys Ala Asp Lys Ala Cys Tyr Glu Arg Glu Met Lys Ile Tyr Pro Tyr
65 70 75 80
Leu Lys Gly Arg Gln Lys
85

<210> 31
<211> 70
<212> PRT
<213> Homo sapiens

<400> 31
Met Gly Lys Gly Asp Pro Lys Lys Pro Arg Glu Lys Met Pro Ser Tyr
1 5 10 15
Ala Phe Phe Val Gln Thr Cys Arg Glu Ala His Lys Asn Lys His Pro
20 25 30
Asp Ala Ser Val Asn Ser Ser Glu Phe Ser Lys Lys Cys Ser Glu Arg
35 40 45
Trp Lys Thr Met Pro Thr Lys Gln Lys Gly Lys Phe Glu Asp Met Ala
50 55 60
Lys Ala Asp Arg Ala His
65 70

<210> 32
<211> 648
<212> DNA
<213> Homo sapiens

<400> 32

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atgggcaaag gagatcctaa gaagccgaca ggcaaaatgt catcatatgc atttttgtg 60
 caaacttgc gggaggagca taagaagaag caccagatg cttcagtcaa cttctcagag 120
 tttctaaga agtgcctcaga gaggtggaag accatgtctg ctaaagagaa aggaaaattt 180
 gaagatatgg caaaggcgga caaggccgt tatgaaagag aaatgaaaac ctatatccct 240
 cccaaagggg agacaaaaaa gaagttcaag gatcccaatg caccsaagag gcttccttcg 300
 gccttcttc tcttcgtc tgagtatcgc ccaaaaatca aaggagaaca tcctggcctg 360
 tccattggtg atgttgcgaa gaaactggga gagatgtgga ataacactgc tgcagatgac 420
 aagcagcctt atgaaaagaa ggctgcgaag ctgaaggaaa aatacggaaa ggatattgct 480
 gcatatcgag ctaaaggaaa gcctgtatgc gcaaaaaagg gagttgtcaa ggctgaaaaa 540
 agcaagaaaa agaaggaaga ggaggaagat gaggaaatg aagaggatga ggaggaggag 600
 gaagatgaag aagatgaaga agatgaagaa gaagatgtatg atgatgaa 648

<210> 33

<211> 633

<212> DNA

<213> Homo sapiens

<400> 33

atgggcaaag gagatcctaa gaagccgaga ggcaaaatgt catcatatgc atttttgtg 60
 caaacttgc gggaggagca taagaagaag cactcagatg cttcagtcaa cttctcagag 120
 tttctaaca agtgcctcaga gaggtggaag accatgtctg ctaaagagaa aggaaaattt 180
 gaggatatgg caaaggcgga caagaccat tatgaaagac aaatgaaaac ctatatccct 240
 cccaaagggg agacaaaaaa gaagttcaag gatcccaatg caccsaagag gcttccttcg 300
 gccttcttc tcttcgtc tgagtatcgc ccaaaaatca aaggagaaca tcctggcctg 360
 tccattggtg atgttgcgaa gaaactggga gagatgtgga ataacactgc tgcagatgac 420
 aagcagcctg gtgaaaagaa ggctgcgaag ctgaaggaaa aatacggaaa ggatattgct 480
 gcatatcaag ctaaaggaaa gcctgtatgc gcaaaaaagg gagttgtcaa agctgaaaaa 540
 agcaagaaaa agaaggaaga ggaggaagat gaggaaatg aagaggatga ggaggaggaa 600
 gatgaagaag atgaagaaga tgatgtatgat gaa 633

<210> 34

<211> 564

<212> DNA

<213> Homo sapiens

<400> 34

atgggcaaag gagaccctaa gaagccgaga ggcaaaatgt catcatatgc atttttgtg 60
 caaacttgc gggaggagtg taagaagaag caccagatg cttcagtcaa cttctcagag 120
 tttctaaga agtgcctcaga gaggtggaag gccatgtctg ctaaagataa aggaaaattt 180
 gaagatatgg caaagggttcaag caaagaccgt tatgaaagag aaatgaaaac ctatatccct 240
 cctaaagggg agacaaaaaa gaagttcgag gattccatg caccsaagag gcttccttcg 300
 gccttttgc tttctcgtc tgagtattgc ccaaaaatca aaggagagca tcctggcctg 360
 cctattagcg atgttcaaa gaaactggta gagatgtgga ataacactt tgcagatgac 420
 aagcagctt gtgaaaagaa ggctgcgaag ctgaaggaaa aatacggaaa ggatcagct 480
 acatatcgag ctaaaggaaa gcctgtatgc gcaaaaaagg gagttgtcaa ggctgaaaaa 540
 agcaagaaaa agaaggaaga ggag 564

<210> 35

<211> 615

<212> DNA

<213> Homo sapiens

<400> 35

atggacaaag cagatcctaa gaagctgaga ggtgaaatgt tatcatatgc atttttgtg 60
 caaacttgc aggaggagca taagaagaag aaccagatg cttcagtcaa gttctcagag 120
 tttttaaaga agtgcctcaga gacatggaaag accatttttg ctaaagagaa aggaaaattt 180
 gaagatatgg caaaggcgga caaggccat tatgaaagag aaatgaaaac ctatatccct 240
 cctaaagggg agaaaaaaa gaagttcaag gatcccaatg caccsaagag gcttccttcg 300
 gccttttgc tttctcgtc tgagtatcgc ccaaaaatca aaggagaaca tcctggcctg 360
 tccattgtatg atgttgcgaa gaaactggta gggatgtgga ataacaccgc tgcagctgac 420
 aagcagctt atgaaaagaa ggctgcgaag ctgaaggaaa aatacggaaa ggatattgct 480
 gcatatcgag ctaaaggaaa gcctaattca gcaaaaaaga gagttgtcaa ggctgaaaaa 540

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agcaagaaaa agaaggaaga ggaagaagat gaagaggatg aacaagagga ggaaaatgaa 600
 gaagatgatg ataaa 615

<210> 36
<211> 240
<212> DNA
<213> Homo sapiens

<400> 36
atgggcaaag gagatcctaa gaagccgaga ggcaaaatgt catcatgtgc attttttgtg 60
caaacttgtt gggaggagca taagaagcag tacccagatg cttcaatcaa cttctcagag 120
tttctcaga agtgcggcaga gacgtgaaag accacgattt ctaaagagaa aggaaaattt 180
gaagatatgc caaaggcaga caaggccat tatgaaagag aaatgaaaac ctatataccc 240

<210> 37
<211> 240
<212> DNA
<213> Homo sapiens

<400> 37
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<210> 40
<211> 74
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20 25 30
Ser Ile Gly Asp Thr Ala Lys Lys Leu Gly Glu Met Trp Ser Glu Gln
35 40 45

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Ser Ala Lys Asp Lys Gln Pro Tyr Glu Gln Lys Ala Ala Lys Leu Lys
50 55 60
Glu Lys Tyr Glu Lys Asp Ile Ala Ala Tyr
65 70

<210> 41
<211> 74
<212> PRT
<213> Homo sapiens

<400> 41
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20 25 30
Ser Ile Gly Asp Val Ala Lys Lys Leu Gly Glu Met Trp Asn Asn Thr
35 40 45
Ala Ala Asp Asp Lys Gln Pro Tyr Glu Lys Lys Ala Ala Lys Leu Lys
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Glu Lys Tyr Glu Lys Asp Ile Ala Ala Tyr
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20 25 30
Ser Ile Gly Asp Val Ala Lys Lys Leu Gly Glu Met Trp Asn Asn Thr
35 40 45
Ala Ala Asp Asp Lys Gln Pro Gly Glu Lys Lys Ala Ala Lys Leu Lys
50 55 60
Glu Lys Tyr Glu Lys Asp Ile Ala Ala Tyr
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<210> 43
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<400> 43
Phe Lys Asp Ser Asn Ala Pro Lys Arg Pro Pro Ser Ala Phe Leu Leu
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Phe Cys Ser Glu Tyr Cys Pro Lys Ile Lys Gly Glu His Pro Gly Leu
20 25 30
Pro Ile Ser Asp Val Ala Lys Lys Leu Val Glu Met Trp Asn Asn Thr
35 40 45
Phe Ala Asp Asp Lys Gln Leu Cys Glu Lys Lys Ala Ala Lys Leu Lys
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Glu Lys Tyr Lys Lys Asp Thr Ala Thr Tyr
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14/14

<212> PRT

<213> Homo sapiens

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20 25 30
Ser Ile Gly Asp Val Val Lys Lys Leu Ala Gly Met Trp Asn Asn Thr
35 40 45
Ala Ala Ala Asp Lys Gln Phe Tyr Glu Lys Lys Ala Ala Lys Leu Lys
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<212> PRT

<213> Homo sapiens

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20 25 30
Ser Ile Gly Asp Val Ala Lys Lys Leu Gly Glu Met Trp Asn Asn Thr
35 40 45
Ala Ala Asp Asp Lys Gln Pro Tyr Glu Lys Lys Ala Ala Lys Leu Lys
50 55 60
Glu Lys Tyr Glu Lys Asp Ile Ala Ala Tyr Arg Ala Lys Gly Lys Pro
65 70 75 80
Asp Ala Ala Lys Lys Gly Val Val Lys Ala Glu Lys
85 90